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10/721,718	11/25/2003	Dane Kenton Parker	DN2002-085	5753

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EXAMINER

EGWIM, KELECHI CHIDI

ART UNIT PAPER NUMBER

1713

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/721,718

Applicant(s)

PARKER ET AL.

Examiner

Dr. Kelechi C. Egwim

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-23, 26, 33, 34, 36, 40, 42-48, 50, 51, 53-55, 62 and 66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-68 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 081604.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 17,24,25,27-32,35,37-39,41,49,52,56-61,63-65,67 and 68.

## DETAILED ACTION

### *Election/Restrictions*

1. This application contains claims directed to the following patentably distinct species and subspecies for five separate genii of the claimed invention:

A) With regards to the control agent, the following patentably distinct species and sub-species are claimed:

- a. wherein the control agent is an agent for controlled free radical polymerization. (claims 14, 24-28, 42-52, 57 and 63).
  - i. wherein the control agent is an agent for reversible addition-fragmentation transfer polymerization. (claims 24 and 57).
  - ii. wherein the control agent is an agent for atom transfer radical polymerization. (claim 25).
  - iii. wherein the control agent is an agent for nitroxide-mediated polymerization. (claims 26, 44 and 45).
  - iv. wherein the control agent is an agent for degenerative transfer polymerization. (claim 27).
  - v. wherein the control agent is an agent for ring-opening polymerization. (claims 28 and 63).
- b. wherein the control agent is an agent for controlling acyclic diene metathesis polymerization. (claim 29)
- c. wherein the control agent is an agent for anionic polymerization. (claim 30)

Art Unit: 1713

- d. wherein the control agent is an agent for cationic polymerization. (claim 31)
- e. wherein the control agent is an agent for controlling coordination polymerization. (claim 32)
- f. wherein the control agent is an combination of control agents for at least two different types of polymerizations. (claims 67 and 68)

B) With regards to the latent surfactant, the following patentably distinct species and sub-species are claimed:

- a. wherein the latent surfactant is an acid. (claims 16, 34 and 36-38).
  - i. wherein the latent surfactant is a carboxylic acid. (claim 36)
  - ii. wherein the latent surfactant is a sulfonic acid. (claim 37)
  - iii. wherein the latent surfactant is a sulfate acid. (claim 38)
- b. wherein the latent surfactant is a base. (claims 17 and 35).
- c. wherein the latent surfactant is a combination of an acid and a base. (claim 56).

C) With regards to the surfactant activator, the following patentably distinct species and sub-species are claimed:

- a. wherein the surfactant activator is a base. (claims 16, 34 and 39-41).
  - i. wherein the surfactant activator is a hydroxide of a Group I metal. (claim 39)

Art Unit: 1713

- ii. wherein the surfactant activator is a Group I metal phosphate.  
(claim 40)
- iii. wherein the surfactant activator is an amine. (claim 41)
- b. wherein the surfactant activator is an acid. (claims 17 and 35).

D) With regards to the monomer, the following patentably distinct species are claimed:

- a. wherein the monomer is a combination of styrene and butadiene. (claims 46 –48, 50 and 51).
- b. wherein the monomer comprises isoprene. (claim 49)
- c. wherein the monomer comprises  $\alpha$ -methyl styrene. (claim 52)

E) With regards to the initiator, the following patentably distinct species are claimed:

- a. wherein the initiator is as define in claim 42.
- b. wherein the initiator is as define in claim 64.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims

Art Unit: 1713

readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Alvin Rockhill on 3/1/05, a provisional election was made with traverse to prosecute the invention of species A aiii), B ai), C aii), D a) and E a); claims 1-16, 18-23, 26, 33, 34, 36, 40, 42-48, 50, 51, 53-55, 62 and 66. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17, 24, 25, 27-32, 35, 37-39, 41, 49, 52, 56-61, 63-65, 67 and 68 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 48 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 48 recites the limitation "wherein the conjugated diolefin monomer is 1,3-butadiene" in claim 14. There is insufficient antecedent basis for this limitation in the claim since there is no conjugated diolefin monomer mentioned in claim 14.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –



Art Unit: 1713

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 14, 21-23, 33, 34, 42, 43, 54, 55 and 62 are rejected under 35

U.S.C. 102(b) as being anticipated by Raymonds et al. (USPN 5,990,224) or Helmer et al. (USPN 6,262,169).

Each of Raymonds et al. (col. 3, lines 28-30, col. 5, lines 8-23 and 50-64 and Example 1) or Helmer et al. (col. 4, lines 14-25, col. 6, lines 1-14 and 42-57 and Example 1) teach emulsion polymerization processes comprising preparing aqueous polymerization mediums comprised of a monomer, a chain transfer control agent, and an emulsifier, and initiating polymerization of said monomer within the aqueous polymerization medium, wherein the emulsifier, represented by oligomers with sulfate end groups, may be generated in-situ within the aqueous polymerization medium.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

9. Claims 1-16, 18-23, 26, 33, 34, 36, 40, 42-48, 50, 51, 53-55, 62 and 66 are rejected under 35 U.S.C. 102(b) as being anticipated by Charleux et al. (EP 970973).

In the abstract, col. 1, lines 11-22, col. 2, lines 39-65, col. 6, lines 50-54, col. 7, lines 27-34, col. 8, line 63 to col. 9, line 35, col. 10, lines 10-17, col. 10, line 53 to col. 11, line 21 and the Examples of US 6,353,065, which is the English language translation of EP 970973, Charleux et al. teach emulsion polymerization processes comprising preparing aqueous polymerization mediums comprised of monomers, such as styrene and butadiene, a control agent such as phenyl t-butyl nitroxide, and an emulsifier, and initiating polymerization of said monomer within the aqueous

Art Unit: 1713

polymerization medium, wherein emulsifier is preferably introduced to the aqueous medium as a part of a compound also comprising the stable free radical generating moiety, and subsequently generated in-situ with the addition a base such as  $\text{Na}_2\text{HPO}_4$  (see example 7), within the aqueous polymerization medium, and wherein the resulting polymer has a low polydispersity.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kelechi C. Egwim whose telephone number is (571) 272-1099. The examiner can normally be reached on M-T (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KELECHI C. EGWIM PH.D.  
PRIMARY EXAMINER

KCE

